

CAMPUS NEWS

Professor Bradlow appointed General Manager, Information Technology

The Chairman of the Illawarra Technology Corporation, George Maltby, has announced the appointment of Professor Hugh Bradlow as General Manager of the Corporation's Information Technology Division and Head of the Corporation's Centre for Information Technology Research (CITR).

'Professor Bradlow is a leading telecommunications researcher, with a solid international reputation,' Mr Maltby said.

'He has had a most impressive career and has the distinction of having been the youngest person to be elected to the Australian Academy of Technological Sciences and Engineering.

'He has also been one of the key people in the development of telecommunications research at Wollongong since he arrived at the University in 1987.

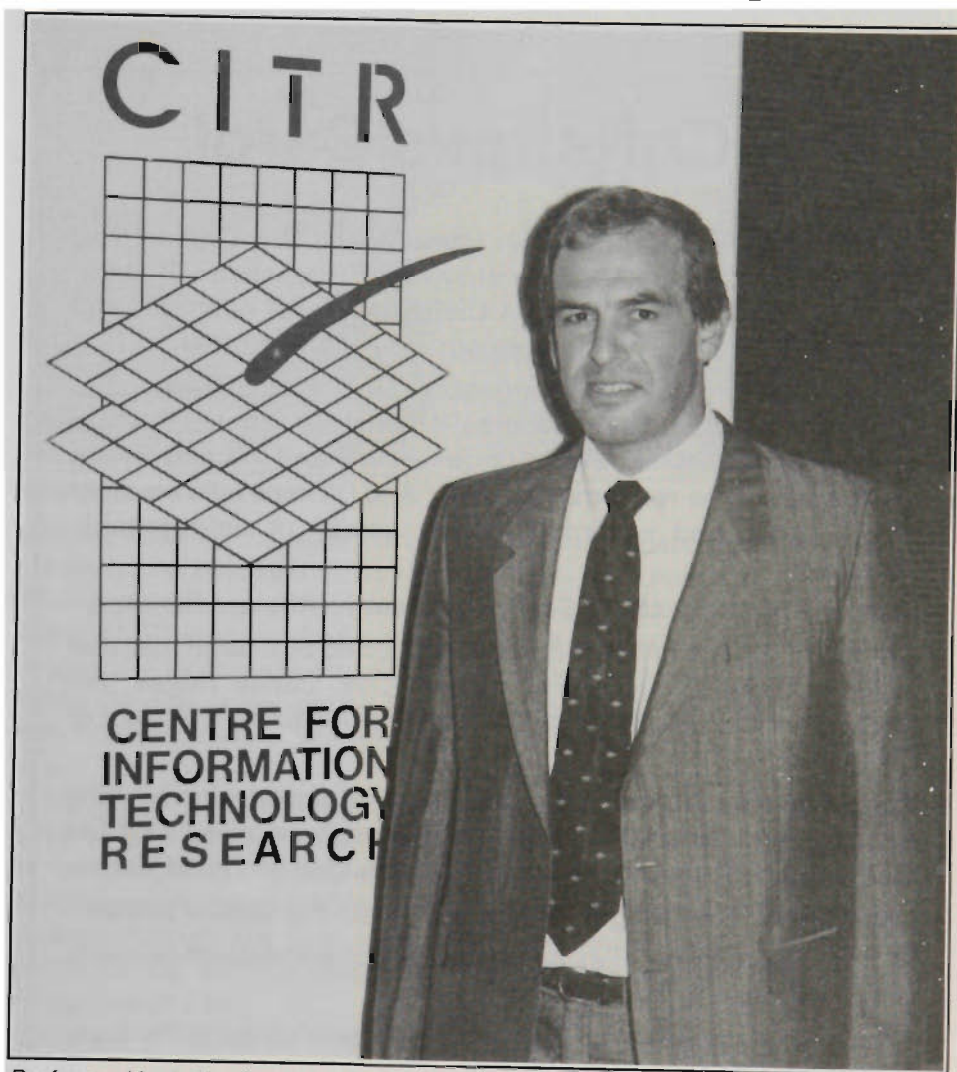
'His appointment means that we can continue very confidently to build on our past achievements and at the same time explore the new frontiers emerging in telecommunications.'

Professor Bradlow is Professor of Computer Engineering at the University of Wollongong.

Since the NorTel Technology Centre was established at Wollongong in 1990 to conduct research into Advanced Personal Telecommunications, he has been the Centre's Director.

He has also been General Manager, Research and Development, for NorTel Australia.

Originally from South Africa, where he graduated from the University of Cape Town, Professor Bradlow ob-



Professor Hugh Bradlow

tained a D.Phil in Experimental Nuclear Physics at Balliol College, Oxford.

A range of research and academic appointments has included work in the United Kingdom, the USA and South Africa, and appointment at the age of 29 to a chair of electrical engineering at the University of Cape Town.

In 1987 he was appointed Professor of Computer Engineering at Wollongong.

Then in 1990, he became Director of the Switched Networks Research Centre, established by Telecom Australia at Wollongong University.

Professor Bradlow's research activities since arriving in Wollongong have

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Professor Bradlow new CITER General Manager

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covered a range of areas of crucial significance for the development of Australia's telecommunications industry.

Research areas have included Intelligent Networks, Telecommunications Services, broadband ISDN, ATM networks and Automated Drug Delivery Systems.

Professor Bradlow replaces Dr Ian Reinecke as Head of the Centre for Information Technology Research.

Dr Reinecke, the founding Director of the CITER, has been appointed Chairman of the Queensland Government's Information Policy Board and left the University of Wollongong for Bris-

bane in November.

The Information Policy Board oversees the acquisition and use of public sector computing and telecommunications equipment and services across Queensland Government departments and agencies.

It also plays a leading role in the development of high technology industry in the state.

The Department of Business, Industry and Regional Development in Queensland has also appointed Dr Reinecke as its Strategic Adviser on information technology with particular responsibility for the recently-established Information Industries Board.

Dr Reinecke established CITER by taking study leave in 1989 and in the period since it attracted commercial research to the university from companies such as Telecom, Canon, Alcatel, Ericsson, Nokia and SITA.

CITER also conducts training for Telecom and develops computer-based courseware for Optus and SITA.

Under Dr Reinecke's leadership CITER was also active in attracting facilities to Wollongong such as the Nortel Technology Centre and Telecom's Customised Software Solutions Centre as well as the fibre optic cable to the home trial which extends to 200 homes in Cordeaux Heights.

A Christmas Carol

We all think we know Ebenezer Scrooge and Bob Cratchit and Tiny Tim and the Ghosts of Christmas Past, Present and Future. So often has Dickens' tale of 'A Christmas Carol' been told and retold that it is inseparable from our idea of Christmas.

This adaptation, of what is arguably the world's most popular story, is totally faithful to Dickens' original. It reflects the true spirit of Christmas for it tells of generosity and joy and how a mean soul can be redeemed by love. And Dickens tells his story with humour and sentiment and a galaxy of unforgettable characters.

Staff and students of the School of Creative Arts are featured.

Jeff Kevin returns to play Scrooge, supported by a large cast that includes Faye Montgomery, Michael Coe, Janes Hayes, Ian McGrath and students from Wollongong University's School of Creative Arts.

The production is directed by Des Davis, original design by John Senczuk and includes spectacular atmospheric effects by Ian McGrath and the music of Christmas arranged by David Vance.

Once again, The Bridge Theatre will reflect the festive season.

Special seasonal goodies and drinks will be served and carollers will be on hand in the foyer.

The Smith Family Giving Tree will again be situated in the foyer to receive gifts for needy children.

Playing: The Bridge Theatre, December 2-19
Wednesday to Saturday at 7.30pm
Saturday Matinees at 2pm
Lunchbox at 11am. December 9 and 16
Sunday Matinee at 5.30pm December 19
Bookings: (042) 296144

New positions

Patricia Webster of the Careers & Appointments Service has been elected to the position of National President of the National Association of Graduate Careers Advisers (NAGCA) and appointed to the Board of Directors of the Graduate Careers Council of Australia (GCCA).

Rare opportunity for postgraduates

The Department of Geology was host to a unique workshop on 10 November.

The Geoscience Workshop was held specifically for postgraduate students studying Geology in NSW universities.

Postgraduate students are rarely given the opportunity to present papers on their research topics to their peers.

The workshop allowed students to hone down their oral communication skills and to gain valuable experience in the art of presenting a technical paper.

This is the second time such a workshop has been held.

The inaugural occasion was at the University of Newcastle in 1992. The venue will rotate between the seven universities that have a mainstream geology component.

Forty students and academic staff attended from Macquarie, Newcastle, NSW and Wollongong.

They were welcomed by Associate Professor Tony Wright and the Pro Vice-chancellor Professor Bill Lovegrove, who praised the concept behind the workshop.

Bill Buttemer's passion for birds and green frogs

The Biological Sciences Department gained a new faculty member in July, Dr Bill Buttemer.

Dr Buttemer, who was a lecturer in physiology at the University of Tasmania, has a broad interest in how animals respond physiologically and behaviourally to their environment.

This interest has taken him to such places as the Pribilof Islands in the Bering Sea to study fur seals, to the Galapagos Islands to study marine iguanas, and to the North Slope of Alaska to study birds nesting on the Arctic tundra.

Dr Buttemer, originally from the United States, was invited to the University of NSW in 1985 for research concerning the energetics of emu incubation.

Female emus lay 10-15 eggs weighing about 650g each, but only the male is involved with incubation.

He sits on the eggs for eight weeks and does not eat during this period.

The research revealed that the metabolic rates of male emus are very low during incubation and are easily fueled by the tremendous fat reserves accumulated by these birds before breeding.

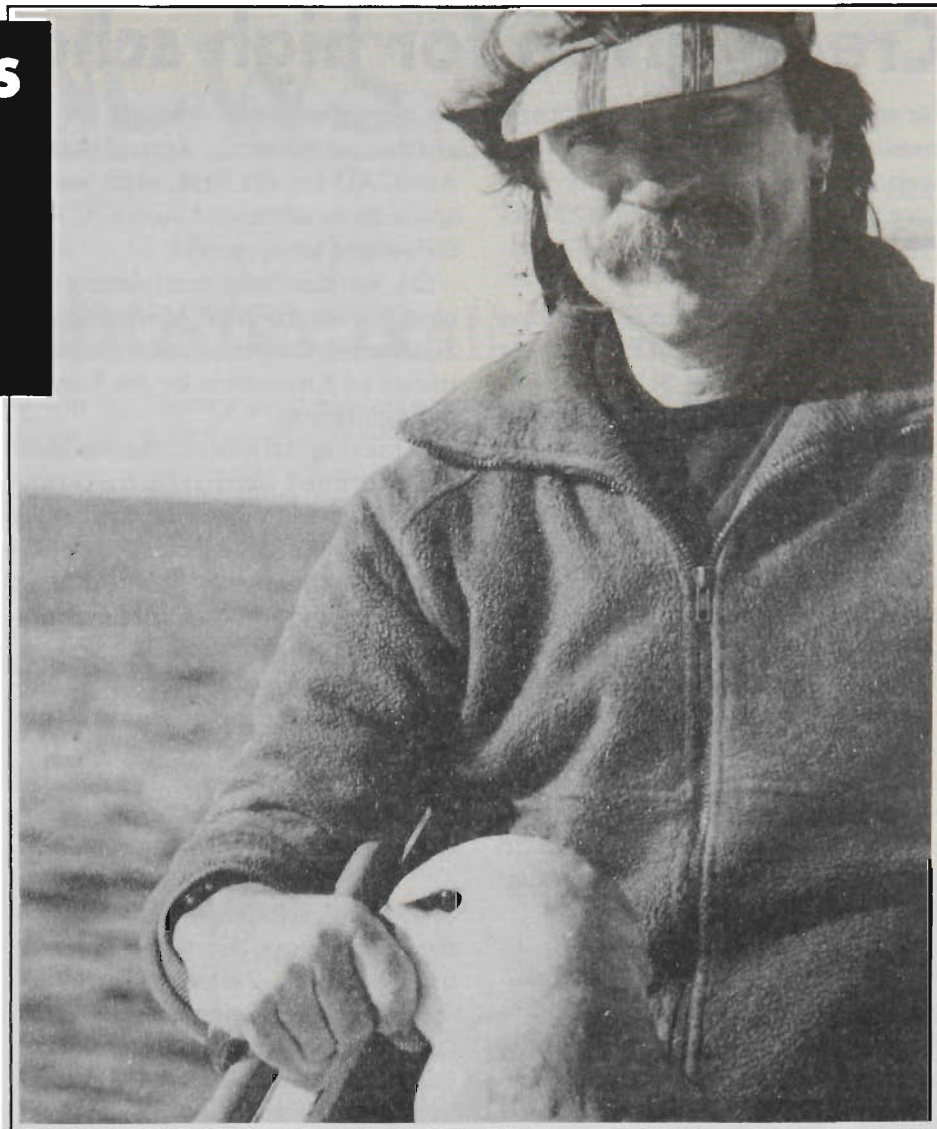
Dr Buttemer is studying Australian tree frogs and birds of NSW.

The green tree frogs of Australia and South America share the unusual property of completely colour-matching green leaves in both the visible and near-infrared parts of the electromagnetic spectrum.

This conceals these frogs from diurnal predators, such as some birds and reptiles which are able to visually detect wavelengths beyond human sensitivities.

These frogs are also unusual in being the only vertebrates known to have a pigment other than melanin in their melanophores.

Instead they use pterorhodin as a darkening pigment which permits them to have a high near-infrared



Dr Bill Buttemer

reflectance like that of green leaves.

However, because melanin is a very effective absorber of ultraviolet radiation (UVR) and pterorhodin is not, the skin of these green treefrogs may be less effective in preventing UVR from reaching tissues beneath the skin.

Dr Buttemer and Dr Stephen Dain at the UNSW School of Optometry are in the process of making comparative measurements of UVR transmittance through the skin of frog species having melanin and those having pterorhodin.

This will reveal if the benefits of having complete camouflage have come at a cost of greater UVR penetration and, if not, how these animals have overcome their absence of this UVR-absorbing pigment.

The studies of Australian birds are part of a long-term research project which aims to characterise the energy needs and hormonal relations of Australian birds.

The old-endemic land birds of Australia have much lower reproductive

rates than Australian species having origins from Asia and Europe.

It is likely that this reflects the fact that Australian species evolved in a relatively energy-poor country compared to Eurasian birds.

Dr Buttemer plans to characterise the energy expenditures of old endemic species and those of newer arrivals to see if these rates reflect differences in reproductive abilities.

Also, because the availability of food varies in a much less predictable manner in Australia than in the northern hemisphere, birds here probably use much different cues and physiological mechanisms to prepare themselves for reproductive activities than introduced species.

To gain understanding in this, Dr Buttemer and Dr Lee Astheimer will be measuring reproductive hormone levels and the extent of gonadal development of selected NSW birds.

These studies will be conducted over a range of habitats to see how environmental factors affect these birds reproductive readiness.

Credit given for high school studies

For several years staff in the Department of Mechanical Engineering have been concerned about the way they have taught part of the subject ENGG 112 Engineering Drawing and Graphics.

Their major concern has been that students who have done Engineering Science in the Higher School Certificate will have completed the material presented in the manual drawing section of Engineering Drawing and Graphics.

In the past, it has been difficult to keep these students motivated especially when they have been given the same course materials as those students who have had no drawing experience. To overcome this problem, and to recognise the students' previous drawing experience, the Department has organised a special course in computer-aided drafting for students who have some background in manual drafting.

During the mid-year recess, all Materials Engineering and Mechanical Engineering students enrolled in Engineering Drawing and Graphics were contacted by letter and invited to sit for an assembly drawing exam.

The letter pointed out that if they passed this examination their mark would count as 50 per cent of their assessment in the subject.

The remaining 50 per cent would be for a computer-aided drawing examination in week seven of the Spring Session.

Students who passed this assembly drawing examination could elect to

do computer-aided drawing for the entire session: introductory AutoCAD for the first seven weeks and a more advanced AutoCAD for the second seven weeks.

On satisfactorily completing the more advanced AutoCAD course, students would be presented with a Certificate of Attainment by the Faculty of Engineering.

In the original letter to the students it was pointed out that such a certificate would enhance their curriculum vitae and that satisfactory completion of the course may lead to at least partial exemption in future computer-aided drawing subjects.

Of the total enrolment of 90 students, 49 sat for the assembly drawing examination.

Forty seven passed and 45 decided to do computer-aided drawing for the entire session.

Dr Devi Saini from the Department of Mechanical Engineering presented the introductory AutoCAD material using the Sun Workstations and UNIX System in the original Faculty CAD Laboratory.

Mr Val Newfield from Illawarra Institute of Technology presented the more advanced AutoCAD material using the Apple Macintoshes in the new Faculty CAD Laboratory.

All of the 45 students passed the introductory course and proceeded to the more advanced course.

Of these, 38 satisfactorily completed the more advanced course and were presented with their Certificate of Attainment by the Dean, Professor

Tibor Rozgonyi, at a Faculty morning tea in the Atrium in the New Engineering Building on 26 November.

The students who did not do computer-aided drawing for the entire session followed the standard syllabus for Engineering Drawing and Graphics.

This consisted of manual drawing for the first seven weeks and introductory AutoCAD for the second seven weeks.

The manual drawing was presented by Associate Professor Bob Wheway and the Introductory AutoCAD by Dr Devi Saini, both from the Department of Mechanical Engineering.

Forty five students were involved in this standard subject presentation.

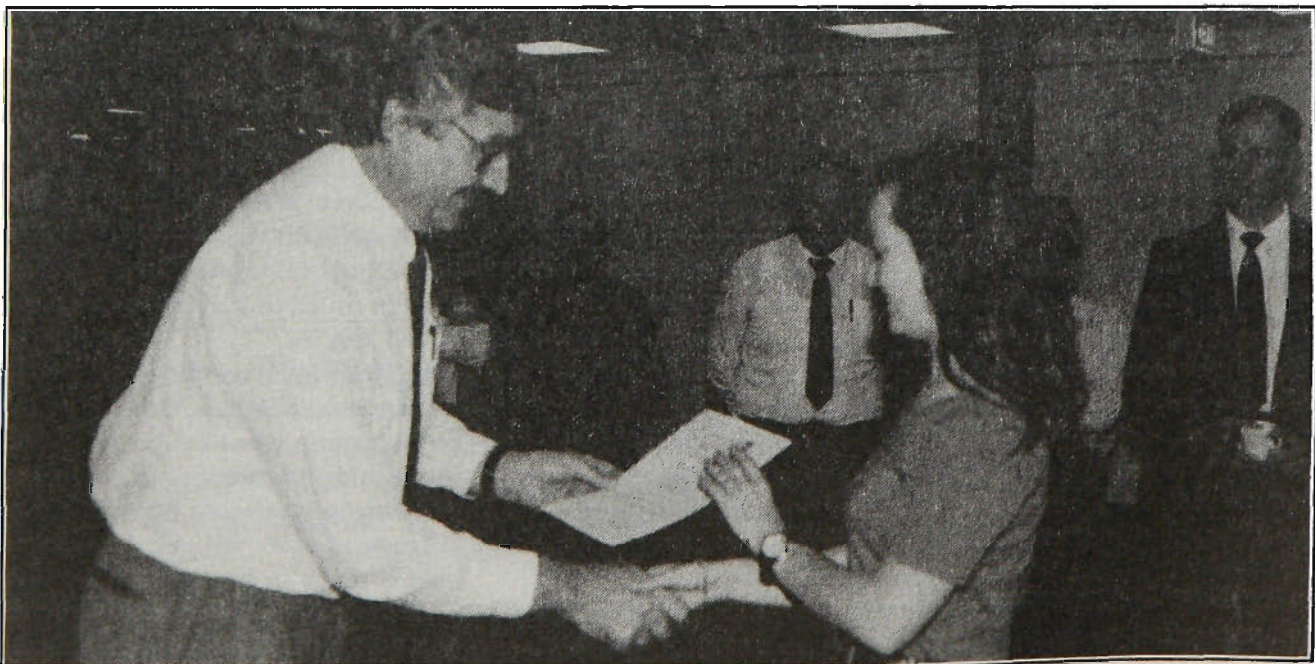
The Dean and the Sub-Dean provided useful support and encouragement for this customer-oriented initiative.

This is possibly the first time that students at the University of Wollongong have been able to gain exemption from subject matter because they have completed similar material at high school.

The initiative has proved to be most successful (as evidenced by the final results in the subject and the students' attitude to each of the two streams presented this year).

The Department of Mechanical Engineering would like to see the initiative continue in 1994 and beyond.

The Department will investigate if a similar scheme could be implemented for both Statics and Engineering Materials.



Professor Tibor Rozgonyi with successful AutoCAD student Leah Pearce



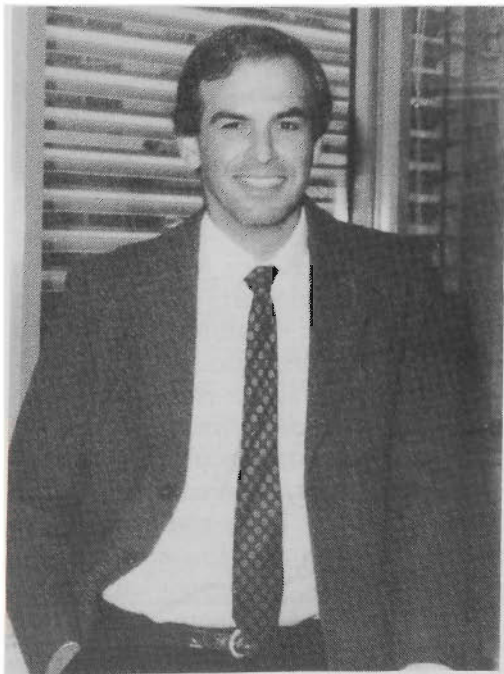
ITC News

The Illawarra Technology Corporation Limited

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INFORMATION TECHNOLOGY DIVISION NEW MANAGER APPOINTED

Professor Hugh Bradlow, currently Director of the Switched Networks Research Centre, has been appointed General Manager of the Information Technology Division, effective from 1 January 1994. In this role he also becomes Head of the Centre for Information Technology Research (CITR) and Head of the Telecommunications Research Institute. Former General Manager, Dr Ian Reinecke, is leaving ITC at the end of December 1993 to take up a position in Queensland.



• **Professor Hugh Bradlow, new General Manager of the Information Technology Division**

INDUSTRY TRAINING PROGRAM

ITC and the Sydney adult education specialist, Macquarie Community College, have entered into a joint venture to provide industry training which is targeted to small and medium business in the north-western region of Sydney. The Certificate in Manufacturing course was developed by the Training and Education Division to meet the practical training needs of shopfloor workers and supervisors, and provides courses to help workers update or upgrade work skills.

Modules include maths and science basics, total quality control, materials handling and robotic technology, and flexibility in course design and delivery ensures that companies are provided with a program tailored to meet their specific business requirements. As part of the joint venture, the College is seeking accreditation by the NSW Vocational Education and Training Accreditation Board (VETAB) for delivery of the Certificate.

Further information: Michelle Pieri (042) 268884



• **Pictured from left to right The Deputy Mayor of Ryde, Councillor Jim Hull, with Kathy Jones and Jim Langridge of ITC, guest of honour Ms Kerry Chikarovski, NSW Minister for Industrial Relations and Employment, and Ron Anderson, Principal of Macquarie Community College**

NEW NAME FOR DIVISION

At a staff meeting held shortly after Mr John Weidemier took up his appointment as General Manager, Technology Development

and Consulting, members of the Resources Division decided to rename the division to more accurately reflect its activities. A competition was held, with a dinner for two as the prize. Ian Oxley's suggestion of ADVANCED TECHNOLOGIES DIVISION was deemed by the judges to fulfil the criteria. The Microwave Applications

Research Centre (MARC), Automation and Engineering Applications Centre (AEAC), and the Consulting and Intellectual Property Unit (CIPU) are the centres within the Division.

*Further information
Gill Churchill (042) 268821*

OFFICIAL OPENING OF COOPERATIVE RESEARCH CENTRE

The Cooperative Research Centre for Materials Welding and Joining (CRC), established in July 1993 as one of the Centres supported under the Australian Government's Cooperative Research Centres Program to promote collaboration in research and education between university, industry and government organisations, was officially opened at the Illawarra Technology Centre on 26 November 1993. The Federal Member for Science, Mr Chris Schacht, officiated at the ceremony, in association with the Vice-Chancellor of the University of Wollongong, Professor Ken McKinnon, and Mr Don Williams, Chairman of the CRC. Also in attendance were the Speaker and Federal Member for Cunningham, Mr Stephen Martin, State Member for Wollongong, Mr Gerry Sullivan, and Mr Alex Dix, Chairman of

the NSW Science and Technology Council.

With headquarters in the Illawarra Technology Centre on the University of Wollongong campus, and a further centre in Adelaide, the CRC brings together under a Joint Venture Partnership the resources of ANSTO, BHP Steel, CSIRO, the Universities of Wollongong and Adelaide and the Welding Technology Institute of Australia.

Fourteen major research programs are currently being undertaken by the partner organisations, with eight postgraduate research students working towards Masters and PhD degrees at the Universities of Wollongong and Adelaide.

Further information:
Monica Thomas (042) 268889

GRADUATE CERTIFICATE IN MANAGEMENT

In a joint initiative, commencing in 1994, TAFE NSW, the Canberra Institute of Technology and the University of Wollongong will provide a one year part-time university-accredited course for middle managers - the Graduate Certificate in Management.

The focus of the Graduate Certificate is to develop organisational and strategic skills based on sound research practice and understanding. These skills and knowledge provide a basis for management which emphasises achievement, service and quality for clients, a positive attitude to change, and ethical behaviour. The Graduate Certificate, designed and developed using the expertise of the University of Wollongong, TAFE NSW, and the Canberra Institute of Technology, is a unique combination of practical relevance and academic knowledge.

The Graduate Certificate is derived from national competency standards, and the University of Wollongong qualification achieved is recognised throughout Australia. Delivered nationally through TAFE colleges, the one year part-time program is very flexible. Divided into four modular-based streams, the program commences with Stream 1, but Streams 2, 3 and 4 can be undertaken in any order. The program concludes with a practical, problem solving Workbased Project.

Further information:
Michelle Pieri (042) 268884

MICROWAVE TECHNOLOGY AND PAINT VISCOSITY

A system for controlling paint viscosity has been developed by the Advanced Technologies Division for BHP Coated Products. The system, involving microwave technology, overcomes many of the problems associated with conventional techniques, such as ease of cleaning, lack of control and inefficiency, and is considered a world first. A second unit has been ordered by BHP, with the possibility of others to be used on various paint lines around the country.

Further information:
Gill Churchill (042) 268821

COMMERCIALISING UNIVERSITY RESEARCH

As part of ITC's focus in providing the means of technology transfer for University research with potential for commercial application, Associate Professor Noel Kennon, on behalf of the Advanced Technologies Division, is undertaking discussions with researchers across campus. Researchers contacted to date have shown interest in being part of this venture, and early indications are that the concept will result in a large number of projects being investigated for commercial potential.

Further information:
Gill Churchill (042) 268821

SHIPPING LINE RELEASES CTPA STUDY ON WATERFRONT REFORM

Australia-New Zealand Direct Line (ANZDL), one of the largest container shipping firms in the Australia-trans Pacific trade, recently released a study which the Line had commissioned from the Centre for Transport Policy Analysis (CTPA). The study assessed the impact of the Government's three-year waterfront reform process on the Line's operations in its three ports of call on Australia's east coast - Melbourne, Sydney and Brisbane.

The study found that there had been significant gains in waterfront productivity, with faster ship turnaround time and better gross handling productivities; but that falling container volumes and significant increases in port prices had neutralised many of the gains of stevedoring reforms for this shipping line.

The study created considerable interest in the shipping community and was presented to Senator Collins, the Federal Minister for Transport and Communications.

Further information:
Sophia Everett (042) 268843

RECENT CONFERENCES

The Training and Education Division (T&E) organised two recent conferences in Wollongong.

"Towards a Competitive Edge", held in late September, was sponsored by the Welding Technology Institute of Australia and the Australian Institute for Non-Destructive Testing. The conference provided members of the Institutes in particular, and the Australian fabrication industry in general, with the opportunity to participate in an event which addressed anticipated emerging technologies associated with welding, joining, non-destructive testing and quality evaluation. The overall performance and efficiency of the Australian fabrication industry, and the contributions which could be made by improvements in operation, manufacture, reliability, safety and quality, were topics for discussion.

The 1993 Australian Conference on the "Applications of Computers in the Mineral Industry", held in early October, provided a forum for the presentation and discussion of relevant issues. Convened by the Department of Civil and Mining Engineering, University of Wollongong, topic areas included exploration, geostatistics, mine design, rock mechanics, project evaluation, health, safety and training.

Further information:
Michelle Pieri (042) 268884

SHOP-FLOOR TRAINING FOR FOOD PROCESSING INDUSTRY

ITC and Food Industry Training Ltd have entered into a two-year joint venture to provide a shop-floor training program which will improve the skills of shop-floor workers and supervisors, and thereby increase productivity. The Certificate in Manufacturing course was tailored to the needs of the food industry, and combines maths and science basics with manufacturing systems and food hygiene.

The Certificate already has been adopted by one of the biggest companies in the industry, Unifoods Pty Ltd. Seventeen workers, from machine operators, maintenance and warehouse staff to coffee roasters at Bushells, are well into the first year of the two-year course.

Further information:

Michelle Pieri (042) 268884

STRATEGIC DEVELOPMENT PLANNING FOR PORT KEMBLA

In May 1992, the Centre for Transport Policy Analysis (CTPA) was commissioned by the Illawarra Ports Authority to assist in defining strategic options for Port Kembla. CTPA's report, Development Strategies and Options for Port Kembla, was widely discussed, and was presented at a Consultation Workshop in June this year.

More recently, the Port Kembla 2010 Strategy Conference and a coordinated planning program are formulating further action plans for the Port's development. Dr Ross Robinson, Director of CTPA, is a member of the Strategic Directions Steering Group, and will have continuing involvement with the planning process.

Further information:

Sophia Everett (042) 268843

MANAGEMENT SKILLS FOR IT MANAGERS

Information technology (IT) managers in all sizes and types of organisation, both public and private sector, are increasingly under pressure to tighten the financial aspects of their departments, and to have more effective management skills, not just technical expertise. The lack of formal management training for IT professionals was addressed in early November at a seminar in Sydney sponsored by the Training and Education Division. Entitled

UNIQUE FURNACE DESIGNED

Following the success of the ENVIRONMENT process, another DC arc furnace has been commissioned by the Advanced Technologies Division of ITC. A high-tech Massachusetts company had asked Professor Howard Worner to develop a metal refining furnace. Together with Mr Alf Hart, he designed a countercurrent refining furnace, unique in the international field of pyrometallurgy, incorporating some concepts used by Professor Worner in the 1960s with his "WORCRA" furnaces.

The furnace shell was manufactured by a local engineering firm, Hendry and Jones. Developing this shell into a fully operational furnace has required a mammoth effort on the part of the Coniston staff of the Advanced Technologies Division. It called upon their versatility and teamwork to incorporate multiple refractory linings, electrical systems, water cooling systems and design and construction of many ancillary pieces of equipment.

During the commissioning in early November, the metallurgical team of Len Reilly, Ray and Jeune Eshman and Dave Harris, assisted by Ben Daben and Phil Smede, worked around the clock for several days to complete a full scale run. Professor Worner and Mr John Weidermier, General Manager of the Advanced Technologies Division, flew to America immediately following the commissioning, to provide the sponsoring company with the favourable report.

The commissioning of the furnace also saw the introduction of Mr Geoff Brooks to the Division's pyrometallurgical research program. Mr Brooks has recently taken up his appointment as Extractive Metallurgy Lecturer with the University's Department of Materials Engineering, and will be collaborating with Professor Worner in future innovative projects.

Further information: Gill Churchill (042) 268821



• Pictured from left, Mr Dave Harris, Ms Jeune Eshman, Mr Ray Eshman, Mr Len Reilly, Professor Howard Worner and Mr Geoff Brooks, with the new furnace

"Cost Control and Financial Management of the IT Department", the seminar provided assistance for IT managers to understand how to develop budgets and IT plans; formalise purchasing policies for equipment and services; evaluate ways of cost containment and the financial implications of downsizing; and develop procedures for quoting for projects and services based upon appropriate costing methods.

Further information:

Michelle Pieri (042) 268884

INDUSTRY TRAINING IN ELECTRONICS

The Australian Training School for Advanced Manufacturing (ATSAM) has been

conducting Basic Electronics courses in industry for a number of years. Designed for staff from the stores, production, and sales/marketing areas within a firm, the course provides a basic understanding of electrical components and devices. In this way they are better able to comprehend work instructions, interpret electrical orders and invoices, as well as improving both their understanding of the company's products and overall quality control in their work.

The course is popular because of its "hands-on" approach. It is also convenient for management, as it is delivered on-site.

Further information:

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CTPA DIRECTOR APPOINTED TO MINISTER'S SHIPPING COMMITTEE

The West Australian Minister for Transport, Mr Eric Charlton, recently set up a special Shipping Task Force to examine problems of shipping capacity and quality of service facing West Australian exporters, particularly those exporting rural produce to Japan. Dr Ross Robinson, Director of the Centre for Transport Policy Analysis, was invited to join the Committee which met recently, for the first time, in Fremantle. The Committee comprises senior figures in the Australian shipping community, exporters and shippers, representatives of the Port Authority and Government Departments, and is chaired by the Director General of Transport WA, Dr Stuart Hicks.

Further information:
Sophia Everett (042) 268843



• *Dr Ross Robinson (right) with Mr Eric Charlton, WA Minister for Transport*

SWITCHED NETWORKS RESEARCH CENTRE

The introduction of new telecommunications services created by clever software on switch platforms will be speeded by a \$1.2 million research contract awarded by Telecom Australia to the University of Wollongong, through ITC's Centre for Information Technology Research (CITR). This is the second of two three-year Telecom contracts for telecommunications research.

The new services add considerable value to telecommunications networks without requiring an enormous additional capital investment and offer a real opportunity for Australia. The contract will continue to fund the Switched Networks Research Centre (SNRC) which is staffed by academics and postgraduates from the University of Wollongong, and directed by Professor Hugh Bradlow, Professor of Computer Engineering. The SNRC currently supports eight postgraduate students, who are supervised by Professor Bradlow together with Professor Gary Anido, Professor of Telecommunications Engineering, and another three will join the research program as a result of the new contract.

The SNRC was established at the University of Wollongong by Telecom in 1990 as part of the Centres of Expertise program, which funds universities to carry out specialised research in their field of expertise.

Further information: Professor Hugh Bradlow (042) 272644



• *Pictured from left, Professor Hugh Bradlow, Mr David Beddall, Federal Minister for Communication, and Dr Ian Reinecke, at the public announcement of the contract*

CENTRE FOR MARITIME POLICY ESTABLISHED

The Vice-Chancellor of the University of Wollongong, Professor Ken McKinnon, recently announced the establishment at Wollongong of the Centre for Maritime Policy. A joint venture in association with ITC, the Centre will provide a focal point for multi-disciplinary, policy-oriented research, teaching and consultancy on maritime issues, with a particular emphasis on Australia, Asia and the Pacific. This will include a postgraduate program of Maritime Policy Studies aimed at providing a comprehensive introduction to maritime policy issues and covering a range of

accompanying disciplinary, geographic and thematic interests. Commodore Sam Bateman, a former officer in the Royal Australian Navy, with extensive experience in strategic policy and force development policy, will take up his position as Manager of the Centre in late January 1994. Joint Directors are Dr Ross Robinson, Director of the Centre for Transport Policy Analysis, and Professor Edward Wolfers, the University's Foundation Professor of Politics, Head of the Department of History and Politics, and Coordinator of the Postgraduate Program in International Relations.

Further information:
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Mining Engineering hosts successful short course in strata control



Delegates at the Department of Mining Engineering's Key Centre for Mines short course to study modern techniques used for roof support in underground tunnelling. The delegates are pictured in the recently refurbished Engineering Building

The Department of Mining Engineering's Key Centre for Mines hosted some 20 mining engineers representing a wide cross section of the industry to study modern techniques used for roof support in underground tunnelling last month.

Strata control technology is vitally important in coal mining. Roof stability in underground workings is essential for the safety of mine workers, security of costly machinery and for ensuring that valuable production is not interrupted.

The course combined theoretical aspects of strata control and current industrial practice, with professionals

and consultants from industry lecturing on the more applied components of the course, while staff from the University of Wollongong and the Key Centre for Mines ensured a full coverage of the technical principles underlying state of the art developments.

The course was directed by Professor R N Singh, Head of Mining Engineering, and organised by Associate Professor N Aziz and his Key Centre for Mines staff.

The centre is a joint initiative between the University of Wollongong and the University of NSW and has, as part of its charter, the task of bringing technology advances in Mining Engineering to personnel in the industry.



Mr Permsuk Sutthaphiwat, Director CRP Professor Stephen Hill, Ms Paradee Phothivijit, Project coordinator Ms Heather Spence and Ms Pornthipa Luengwatanakit.

The Centre for Research Policy — in its role of Regional Centre for the Science and Technology Policy Asian Network (STEPAN) — is conducting a nine-week visiting fellows program for three senior officials from the Ministry of Science, Technology and Environment (MOSTE) Bangkok, Thailand.

STEPAN is an official Asia-wide network of people and institutions involved in research training support for national science and technology policy and management.

The organisation's program is devoted to the development of support programs to assist the development of science and technology management information systems, to foster the linking of research with social and economic application, and to promote associated human resource development.

STEPAN operates under the auspices of UNESCO, which continues to provide substantial support for the network.

The visiting officials are: Chief of Science Indicators Section, Captain Ms Paradee Phothivijit; Chief of Policy Section, Ms Pornthipa Luengwatanakit, and policy and planning analyst Mr Permsuk Sutthaphiwat.

The long-term planning for science and technology development is be-

Visiting fellows program extends our links to Asia

ing addressed by MOSTE through the preparation of a master plan for science and technology.

These visitors are involved in writing the master plan, and this visiting fellow program is directly related to the development of the plan.

An important component of the program involves visiting CSIRO, the Australian Bureau of Statistics, the Department of Industry, Technology and Rural Development, the Australian Intellectual Property Organisation and the Australian Advanced Technology Park.

These consultations provide a forum to explore a broad range of problems and opportunities facing Australia in the development of science and technology.

The knowledge gained provides a basis for furnishing representative models that can be adapted and applied to Thailand.

The program also draws on the expertise of the University's departments of Applied Statistics, Information Technology and Communication, Science and Technology Studies and Campus Personal

Computing User Services.

The program covers the analysis of science and technology data, the assessment and evaluation of science and technology activities and the relation between science and technology management and national economic development objectives.

The objectives of the program are to work together to develop a better understanding of the structure of science and technology Management Information Systems, to define science and technology indicators and to strengthen the methodologies of science and technology data collection and management.

A particular outcome of the program is the development of close collaboration at senior policy levels between Thailand and Australia.

The Centre for Research Policy conducts an active research, consultancy and education program nationally and internationally, and is influential in the formulation of national and international policy on science and technology.

The project coordinator and supervisor is Ms Heather Spence.

\$50,000 Law Foundation grant to establish an electronic legal reference centre

The University of Wollongong's Law Library's collection of CD-ROM and legal electronic disk products will be greatly increased by a generous grant of \$50,000 from the Law Foundation of NSW.

The grant will allow the Law Library to establish an electronic reference centre. This centre will have three personal computers with printers.

The grant has also allowed the law library to subscribe for three years to the following CD-ROM and floppy disc products:

New South Wales Case Law — NSW LRs (1971 to date) Updated quarterly.

Unreported Judgments disc — con-

tains unreported judgments from 1984 to date from NSW, Victoria, South Australia, Western Australia and Tasmania on one disk. Updated quarterly.

Federal Case Law disc — contains decisions from four courts: High Court (1947 to date); Federal Court (1977 to date), Administrative Appeals Tribunal (1976 to date) and Family Court (1988 to date). Updated monthly.

Commonwealth Legislation — Consolidated Commonwealth statutes disc updated monthly; Commonwealth Statutes and Statutory Rules disc. Updated monthly together with a Legislation Index disc.

Index to Legal Periodicals on disc

— an index to more 300 Australian and overseas journals.

Australian Legal Monthly Digest on disc — this includes 1989 to date and is updated monthly

Australian Case Citator on disc — covers 1825 to date. Updated monthly.

Telecommunications Law — includes all relevant legislation on one floppy disc in an electronic looseleaf format. Published by Eurofield Information Systems.

The legal Electronic Reference Centre will be located in the reserve room in the Law Library, which is one the first floor of the University Library.

The centre is expected to be operational by Autumn semester next year.

Vice-Chancellor's Awards for Excellence in Teaching

The Vice-Chancellor's Awards for Excellence in Teaching scheme has been set up to encourage and reward outstanding high quality performance in teaching by academic staff of the University.

Up to four awards will be available annually, each valued at \$2000. Recipients will receive suitably inscribed certificates.

As part of the University community your input is essential.

Nominations of worthy staff members can be made by you as a University staff member or student.

Former students of the University may also participate in the scheme by nominating an academic staff member who has taught them.

Each nomination requires the support of three eligible members of the University community.

Your input is invaluable however there are limitations. You may only be involved in one nomination per year and self nominations will not be accepted.

Nominations should be made on official forms (available from Personnel Services and Faculty Offices) and must include in half a page, your reasons for making the nomination.

One form only will be accepted from any group of three nominators.

Nominations should reach the relevant Faculty Dean by 20 December.

The Dean will then lodge a formal submission of no more than two nominees from the Faculty.

Nominees, relevant Department Heads and Deans will all provide information for the Dean's submission.

A more detailed description of the procedure is available in the document entitled Vice-Chancellor's Award for Excellence in Teaching, available from Personnel Services Branch, Faculty Offices and the Administration File Server under Staff Matters, Academic Staff, VC Awards.

The submissions will be considered

by a committee consisting of:

- the Dean of Students (Chair);
- the Pro Vice-Chancellor (Academic);
- the Head of the Centre for Staff Development;
- the Education Officer of the Students Representative Council; and
- two nominees of the Vice-Chancellor,

Presentation will take place on University Day in 1994.

The awards are administered by the Personnel Services Branch. Inquiries: Malcolm Goddard (ext. 3117).

ITS Staff Computer Training Calendar to 31 December

(Open to casual staff and postgraduates)

	Macintosh	
Intro to Macintosh	9.30 am-12.30pm	9 December
Intro to PowerPoint Pt	2 9.30am-12.30pm	14 December
Word Bridging 4.0-5.1	1.30pm-4.30pm	14 December
Intro to Word 5.1 Pt1	9.30am-12.30pm	15 December
Intro to Excel 4.0	9.30am-12.30pm	16 December
Intermediate Word 5.1	1.30pm-4.30pm	21 December
Intro to Word 5.1 Pt 2	9.30am-12.30pm	22 December

To attend one of the three-hour courses, staff will need to complete a Registration Form and have it signed by a Department Head or other person having delegated authority.

Forms are available from ITS Reception (Carole Evans).

Inquiries to : Vicki Ray, Staff Training Officer, ITS, Room 37, Building 15, ext. 4403. The cost of each three-hour course is \$30.

23rd year of creative design competition

For the 23rd consecutive year, the Department of Mechanical Engineering has organised a creative design competition for first year students.

The competition was again co-sponsored by BHP Steel - Sheet and Coil Products Division.

Because of course restructuring within the Faculty of Engineering, only full-time Materials Engineering and Mechanical Engineering students enrolled in ENGG141 Engineering Design were eligible to take part in the competition.

In the first week of Spring Session, the 60 eligible students broke up into design groups of three members.

Each group had to contain one Materials Engineering and one Mechanical Engineering student.

These groups were then asked to identify a community problem for which no solution exists.

They then had to work on solving their problem during the 14-week session.

They presented a preliminary report in week five, a progress report in week 10 and a final report in week 14.

The finalists this year were:

The nozzle tap — Graham Fairbank, Dean Peric and Charmaine Ross.

Locking device for skis — Anthony Anderson, Paolo Piccoli, Nathan Suine and Andrew Wilkinson.

Collapsible walking frame — Paul Hutchinson, Damon Jones and Bradley Willis.

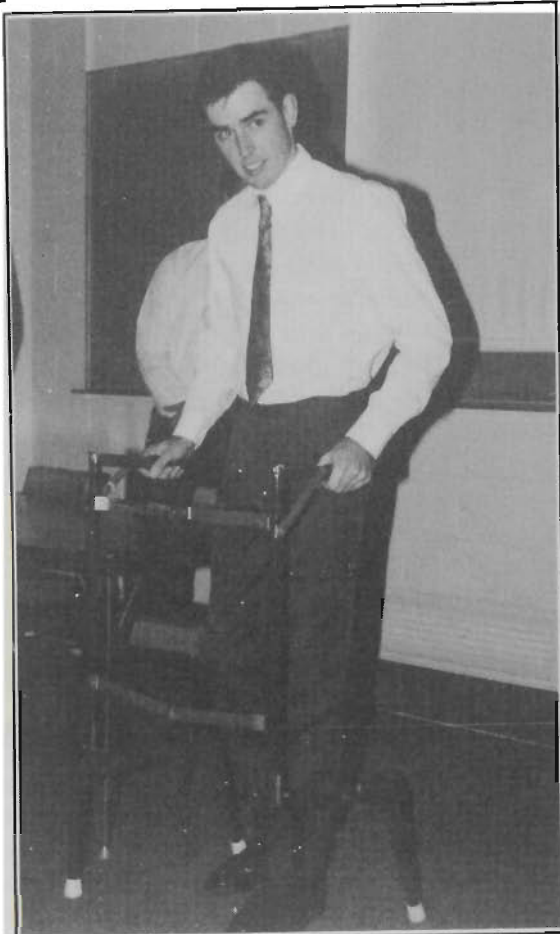
The sway bar jack — Stacey Findlay, Troy McDonald, Brett Monkman.

The hybrid barrow — Michael Biernat, Zin Hua Liang and Colin Salter.

The external judges of the competition were:

- Dr Sharon Beder, Lecturer, Science and Technology Studies Department, University of Wollongong;

- Dr H Dharmappa, Lecturer, Department of Civil and Mining Engineer-



Damon Jones with the winning collapsible walking frame

ing, University of Wollongong;

- Mr Roger Evans, Chief Engineer — Engineering Technology, BHP Steel — Slab and Plate Products Division;

- Professor Michael West, Head, Department of Mechanical Engineering, University of Wollongong.

The five finalists presented their designs to the judges at a public meeting on 26 November.

The order of placing was:

First — Collapsible walking frame.

Second — Sway bar jack.

Third — Locking device for skis.

Fourth — The nozzle tap.

The winners were presented with the Department of Mechanical Engineering Perpetual Trophy and the BHP Steel — Sheet and Coil Products Division Award.

Paul Hutchinson, Damon Jones and Bradley Willis were presented with the Illawarra group of the Institution of Engineers, Australia, prize for the best presentation by the group's chair, Mr Nick Di Bono.

Stacey Findlay, Troy McDonald, Brett Monkman won the People's Choice Award.

What's On

General

Human Experimentation Ethics Committee meeting dates with agenda deadlines in brackets are: 21 December (7 December).

Until 8 December: The second **Asia Pacific Workshop on Intelligent Materials** is being held at the University of Wollongong.

Conferences

HADAMARD CENTENARY CONFERENCE

Research papers in areas related to the work of Jacques Hadarmard
6-9 December 1993

Pentagon, University of Wollongong

Organisation involved: Institute for Combinatorics and Its Applications

Contact: Professor Jennifer Seberry, phone (042) 21 4327, fax: (042) 21 4329.

ASIACRYPT'94

All aspects of the theory and applications of cryptography including symmetric and asymmetric ciphers, authentication, cryptanalysis, protocols, secure transactions, sequences and linear complexity, signatures, hardware and software topics, security of telecommunication systems and computer networks.

28 November-1 December 1994

Date for papers: 18 July 1994

Date for registration: 1 October 1994

Venue: University of Wollongong

Organisation involved: International Association for Cryptologic Research

Contact: Professor Jennifer Seberry, phone (042) 21 4327, fax: (042) 21 4329.

Stop Press

Campus News is published weekly on Wednesdays. Send material, preferably by Microsoft Mail or on disk, to Gillian Curtis (042) 21 3110 by noon on Monday of the week before that of publication